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CLASSIFICATION

COUNTRY East Germany REPORT

SUBJECT Security Measures at the Cable Network of the GDR Postal Service DATE OF REPORT 7 November 1958

PLACE ACQUIRED

LAST REPORT ON SUBJECT (If applicable)

ANNEXES 2

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1. During the last 3 or 4 years, the personnel employed at repeater stations and trunk cable testing stations (maintenance personnel) was systematically purged, all former Nazis were deposed along with most members of the so-called Block parties. They were replaced by politically reliable persons, mostly SED members. Also, the personnel employed at the Abteilung fuer Sonderfragen (Sicherheitsfragen) (Security Department) of the Ministry of Postal and Telecommunication Services (headed by one Wittaschek) and its subdepartments at the Bezirk Direktionen were carefully screened. This department is of great importance in view of the fact that it embraces all stations in charge of the circuit service and the cable layout diagrams. The personnel at other important stations, such as repeater stations and cable testing centers, was densely infiltrated with informers. A branch office of MfS (Ministerium fuer Staatssicherheit) (Ministry of State Security) is said to have been installed at the Leipzig central telephone office. Other security measures to control tapping of the lines were not reported. On principal, it is strictly prohibited to listen-in on any line. Nevertheless, employees at the above-mentioned offices are in a position to listen-in or speak clandestinely to the West, especially at night time when the number of operators is reduced, although they run the risk of being detected.

The tapping of cables, either galvanically, inductively or capacitatively, is a major undertaking requiring a perfect knowledge of the cabling system and detection is highly probable since trunk cables and Bezirk cables are subjected to systematic daily testing with the aid of amplifier equipment. After the discovery of the underground cable tapping gallery at Alt-Glienicke, a decree was issued providing for investigation of even the slightest trace of pulse irregularity.

Special security measures are observed regarding the telephone traffic along the GDR Postal Service order wire lines. While prior to 1956 it was possible to talk directly on order wire line from Leipzig to Hannover, Braunschweig,

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Frankfurt/Main, Hof, etc., presently all calls over this network are directed via Potsdam (order wire distributor at the repeater station?). The names of both the Western and the Eastern parties as well as the subject matter are noted down and most probably all conversations will be checked.

2. Following previous practice, all cable pits at repeater stations and telephone offices are kept under lock and key. The cable pits located north and south of Bitterfeld are equipped with warning systems directly connected to the nearest police station. Visitors to repeater stations can be admitted only with a special permit indicating the objective of their visit, and after special approval by the chief of the plant involved. Each visitor is bound to write down his name in the admission book. The taking of pictures is prohibited and before entering the plant cameras have to be deposited at the security office. The doors to the control rooms of repeater stations can be opened from inside only.
3. The telecommunication service stock offices are held to keep material in stock for emergency cases. Cables crossing strategically vital river bridges or other bridges are to be provided with secondary cables. Secondary lines across bridges in Central Germany (the Bezirke Chemnitz, Leipzig, Halle, and Magdeburg) are still in the planning stage, with the exception of a secondary line across the Elbe River bridge near Wittenberg which was laid as early as 1939. Several secondary cables are said to exist in the Berlin area. In order to provide for troublefree operation of such secondary lines, traffic is conducted along them as a matter of routine. In the planning of all new cabling (coil-loaded cables and carrier frequency cables), the laying of secondary lines at vital points is mandatory. This applies in the first place to the new carrier frequency cable system presently under construction which is to replace the old coil-loaded cabling and is to set up a grid-connection or radial connection between all major Bezirk towns.

The construction of ring cable systems is planned around all larger towns where trunk cables converge or where trunk lines traverse, in order to ensure cable traffic in case the town center is destroyed. This construction is a major undertaking and material shortages and financial problems have as yet impeded realization of this project. It appears possible, however, that such ring lines will no longer be necessary since the new carrier frequency cable system will be equipped with repeater stations located at the town fringes and thus providing for relatively safe operation.

4. The new carrier frequency cable line Wildpark - Zeuthen - Strausberg has been put into operation. In the course of the current year, the Zeuthen - Frankfurt/Oder line with a repeater station in Petersdorf near Fuerstenwalde is expected to become serviceable. Cabling for the Frankfurt/Oder - Cottbus - Dresden line has been completed, but has as yet not been put into operation. Laying of the Dresden - Chemnitz - Leipzig cable line will be finished until the end of the current year.

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In addition to the 8-bifilar core carrier frequency cable Dresden - Chemnitz - Leipzig, another 17-bifilar core cable is to be laid from Dresden to Leipzig via Belgern after the 8-bifilar core Dresden - Chemnitz - Leipzig line proved inadequate due to faulty planning. As yet no decisions were taken whether to lay a direct cable from Halle to Erfurt, or to construct this line via Gera. A 8-bifilar core carrier frequency cable will be laid from Magdeburg to Strausberg via Schwerin - Rostock - Neubrandenburg, but as this equipment will possibly not meet requirements, some of its sections are expected to be equipped with a 17-bifilar core cable.

On principle, cables are not laid along highways or the autobahn, but preferably along roads with light traffic, such as country roads or forest aisles. The cables are laid double-track for four-wire operation in A and B direction. They are embedded 1 to 1.5 meters deep by cable dredgers.

The following particulars were reported: 8-bifilar core quadded cable, 1.2 - 1.4 mm in diameter, with styroflex insulated core covered by successive layers of overlapping styroflex tape, overlapping paper tape, copper tape and a final layer of absorbent paper (the paper layer between the styroflex and the copper foil tape may be omitted). The cables are encased in a 1.5 - 2 mm lead sheathing covered by the conventional iron and jute armoring. The 17-bifilar core cable consists of 16 uniform cores similar to the 8-core cable, the 17th core is a coaxial tube. Including double-track laying and mounting operations, the cost of one kilometer of cable was estimated at 50,000 to 60,000 DME.

5. The carrier frequency cable network is slated for completion in 1970. In view of the unpredictability in the development of the telephone service, it is impossible to foretell if the old coil-loaded cable net (coil-loaded cables are no longer being laid) will continue in operation, at least in the Bezirk network. A certain saturation is to be noted in the demand for communication lines which may be attributed to enforced economy measures adopted at nationalized enterprises in connection with the reduction of the cost prices. Within the framework of the new carrier frequency cable network, a north-south connection, and a west-east line for international traffic are said to be planned on four-tube cables with the center in Berlin.
6. Underground cable distribution points are to be set up at all major net intersections. Preliminary planning of underground distribution points was completed for the repeater stations in Leipzig and Halle. These underground stations are to be located at points formerly used for the same purpose during World War II. The Treuenbrietzen repeater station is said to use an old underground station left undamaged during the war.

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7. New repeater stations of uniform design will be constructed for the carrier frequency cable network. They are to be located at the town fringes, preferably some kilometers distant and way-off from all industrial or strategic points. They will be constructed on terrains of 10,000 to 20,000 square meters and cover a floor space of 15 x 30-40 meters. They will have two underground levels 9 to 10 meters deep. The lower chamber is completely buried, the upper chamber, though sub-surface, receives daylight through windows on one side by a slanted shaft leading to the surface. The windows are fitted with iron shutters to be closed in case of emergency, while the shaft will be filled up with earth. The above-ground structure is single-storied with a hip roof and built-out attic. The lower underground chamber is divided by solid walls into various rooms housing the cable lead-in, the heating equipment, and the battery and power supply. The upper chamber has no partition walls but is fitted with supporting pillars and houses the controls and television equipment. The ground floor contains the cable junction office, telegraph and low frequency equipment. The attic contains the foreman's quarters as well as auxiliary rooms. This type building is to be constructed wherever fit. Otherwise there will be one single underground chamber with accordingly increased floor space.
8. Presently, only V 12 equipment is available for operation of the carrier frequency cable network. V 60 and high carrier frequency equipment is said to be in the development stage. Power will be supplied to secondary automatically-operated repeater stations via the cable from the main repeater station, covering the 36 and 72 km fields either in one or two directions. Final decisions have as yet not been arrived at. All new repeater stations are to be equipped with high-voltage line connections branching off from the mains net at special transformer stations to be constructed on the plant area. To guarantee uninterrupted service, the following provisions will be made to meet power failure: Under normal power supply, a flywheel-driven generator is to store kinetic energy to take over the power supply for the first 10 to 12 seconds after the mains fail. During this interlude, a Diesel standby capacity will be started to continue the power supply during the period of power failure. In case the standby capacity does not get started within the above-mentioned ten to twelve seconds, a battery-charged converter is designed to take over. But as the battery capacity required for this purpose is high and the output poor, the following arrangement will be made: The converter is coupled to the axis of the flywheel generator and will be put into motion when the power is shut off. By this arrangement the battery capacity may be reduced considerably.
9. The new repeater stations are to be constructed in subsequent stages, the first one including construction of all technical installations required for operation of the carrier frequency cables. This stage being completed, it will be evident to what extent the old coil-loaded cables are still required and what of the old equipment in the

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town center will have to be connected to the new repeater station. Accordingly, another or even a third construction stage will follow. It is the objective to connect all old coil-loaded cables at present still required to the new repeater stations. All new coil-loaded cables are to be laid to the new repeater stations in order to preclude all future cable laying work after the new cable network has been completed.

10. The following new repeater stations were reportedly completed: Wildpark, Zeuthen, Strausberg, Frankfurt/Oder, and Cottbus.

In detail, the following was reported:

Construction of the Dresden station was started in the fall of 1957, but its technical installations will probably not be completed until 1959.

Construction of the Chemnitz and Leipzig stations was started in mid-1958.

Allegedly, the Wildpark repeater station, located near Potsdam, is an enlarged former repeater station.

Zeuthen repeater station is located 2 km west of the S-railway station on a fenced-in site surrounded on three sides by forest with open terrain to the east.

The location of the Strausberg repeater station could not be determined.

The Frankfurt/Oder repeater station is located some 7 km southeast of Frankfurt/Oder. Turning west from the Frankfurt/Oder - Fuerstenberg/Oder highway at the junction with the road to Guelndendorf, the repeater station is reached after 500 to 800 meters. It is located in a sparsely wooded area.

The Cottbus repeater station is located 3 to 4 km south of Cottbus, some 100 m north of the autobahn. This station is an enlarged former repeater station constructed outside the built-up town area. Its situation is well known since the old repeater station dates back to the prewar period. Allegedly, the new construction is not conform to the standard design but an adaptation of the old building.

The Dresden repeater station is located some 5 to 6 km northwest of the town center (the former Postplatz square). Following the Dresden - Moritzburg road and branching off west at the far end of the Dresden Waldfriedhof burial grounds on the road to Radebeul, after approximately 1 km one reaches the plant, which is said to be located just south of the road on the edge of a forest.

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The Chemnitz repeater station is located some 5 km southeast of the town center, some 50 m east of the Chemnitz - Zschopau road. The plant is, allegedly, situated within the built-up town area.

The Leipzig repeater station is located some 5 km east of the town center (the former Augustusplatz, now denominated Karl-Marx-Platz) in Leipzig-Holzhausen, north of Kaernerweg street and across from the market garden of one Hanisch. This station is said to have one single underground level due to the local water table conditions.

11. Special cable networks are, allegedly, operating for military purposes (SoA, and NVA) in the Berlin area, as well as on Ruegen and Usedom islands. These networks are said to be maintained by the GDR Postal Service and to be connected to the Postal Service network. They are supposed to be of limited extension. No special cable network is known to exist in the Central German area within the GDR Postal Service net.
12. An overhead carrier frequency line of the former German Army type (so-called Drehkreuzlinie) is said to run along the Leipzig-Berlin autobahn. Other similar lines have also been observed and are supposed to serve SoA telecommunications. These SoA lines are said to distinguish themselves from the postal lines in that they avoid big roads and criss-cross the countryside, being suspended on raw non-impregnated pine poles. SoA personnel is in charge of the maintenance work. Exclusively Soviet cable lines are said to exist in the Berlin area as well as on Ruegen and Usedom islands. SoA is authorized to use civil telecommunication lines. All wire lines to Moscow are centered in Berlin. No lines to Moscow are in existence in the Central German area.
13. In 1952, the GDR Postal Service constructed the following special overhead lines (for 2 carrier frequency lines and 3 low frequency lines): The 910 trunk line from Nordhausen to Cottbus via Halle, Leipzig and Torgau, and the 316 trunk line from Erfurt to Dresden via Gera and Chemnitz. At present, both these lines are operated partly for civil service by the GDR Postal Service. Regulations were issued to cut off civil service whenever required, and all cable terminals and technical equipment were to be kept in special rooms. Postal Service installations for civil service were to be separated from all equipment pertaining to the above lines. They were, however, never put into service for special missions and their use for civil service was decreed by the Ministry for Postal and Telecommunication Services and, consequently, the regulations regarding the separation of technical equipment were no longer observed. No further information is available on any other special cable lines in the area north of Berlin.

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14. A microwave network is still in the construction stage. It is to follow the pattern of the above-mentioned carrier frequency cable network. Ultimately, a microwave system is to interconnect all Bezirk capitals. Microwave terminals will be constructed in the vicinity of repeater stations of the carrier frequency cable network in order to facilitate the switching-over from microwave to wire line. Terminals and relay stations of the microwave system will be erected on elevated points to provide for line-of-sight transmission. The construction of these stations will not follow a standard design but be adapted to the local conditions. The stations will be fenced in and be guarded by plant police. Microwave lines are presently connecting Berlin and Dresden via Stuelpe and Kolm, and Leipzig and Dresden via Kolm. The microwave system is primarily to serve civil communication purposes, as far as the system is maintained by the Postal Service. In addition, other microwave systems are said to exist serving SoA, NVA and the police forces.
15. Mobile microwave equipment is said to exist at the Postal Service. This equipment is subordinate to HV Funk. So far, it has been employed in emergency cases (inundations). According to experience gained thereby, its reliability is rather poor.
16. Liaison officer between the Ministry of Postal and Telecommunication Services and the NVA is one Sternberg, liaison officer to SoA is one Wittaschek, chief of the Abteilung fuer Sonderfragen (Sicherheitsfragen) at the Ministry, and chief of the Central Cable Circuit Office. Both these officers and their respective staffs in Berlin supervise the subdepartments at the individual Bezirksdirektionen. While Sternberg's subdepartments to the Bezirksdirektionen are run by one single employee (a NVA member in civilian clothes), Wittaschek's subdepartments have staffs of several persons.

Chief of Cable Circuit Central
Office within the Abteilung fuer
Sonderfragen (Sicherheitsfragen) Galle

Liaison officer to NVA at
Leipzig Bomboes

Chief of Abteilung fuer
Sonderfragen (Sicherheitsfragen)
at Leipzig Martin Schuchardt

Liaison officer to NVA at
Halle Bezirksdirektion Mueller

Chief of Abteilung fuer
Sonderfragen (Sicherheitsfragen)
at Magdeburg Bezirksdirektion Hahn.

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The designation Abteilung fuer Sonderfragen is the official designation. Inofficially, the designation Abteilung fuer Sicherheitsfragen is in use.

1.  Comment. For map of carrier frequency cable network and its respective repeater stations, see Annex 1.
2.  Comment. For construction plan of repeater stations, see Annex 2.

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Neues TF-Fernkabel-Netz mit Verstärkern

